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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,010	05/24/2000	Katsumi Kanasugi	P107355-00005	5235

7590 09/11/2002

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EXAMINER

GONZALEZ, JULIO C

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/577,010

**Applicant(s)**

KANASUGI ET AL.

**Examiner**

Julio C. Gonzalez

**Art Unit**

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 18 December 2001 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

- ✓ 1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feedback control disclosed in claim 4 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2-6 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

✓ In claim 2, it is disclosed that the output power is increased as the output voltage is decreased. How can the power increased when the voltage decreases if Ohm's law estates that  $\text{Power} = (\text{Voltage})^2 / \text{Resistance}$ ?

✓ In claim 3, how can the load be infinite? Does the load last forever? How can the load be reduced if it is infinite? If the load is so great (infinite), how could a machine be able to get an output power ( $P = V^2 / R$ )? Wouldn't the output power be zero? What is considered a "passage of time"? If the resistance were infinite then the time would have to be also infinite in which case, when the actual invention would get an output power?

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

✓ { In claim 1, what is meant by the "generator operators in a current range"? What are the operators of the generator? What is the maximum operating point of the generator? What are the parameters?

X { In claim 2, it is disclosed that as the output voltage is decreased the output power is increased and also that as the output voltage is decreased the output power is decreased. The claim may seem to contradict the disclosed statements. How the system determining when output power is decreasing or increasing? Is the output power increasing all the time?

✓ In claim 3, how is the resistance reduced? What is meant by “substantially infinite”? It may or may not seem like if the resistance will not decreased since the load may or may not be “infinite”. What is considered a “passage of time”? A day? A week? A year?

✓ In claim 4, what performs the feedback, the control means? The rectifier? The voltage converter?

✓ In claim 11, the acronym “PWM” needs to be spell out.

In order to advance prosecution in the merits, the Prior Art will be applied as best understood by the examiner.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani et al (Patent No 5,061,889) in view of Liang et al.

Iwatani et al discloses an electric power system having an AC generator 101, a rectifier 2, a DC-DC converter 10 between the rectifier 2 and the loads 7 and battery 4. Also, the converter 10 has a switch 5 and the system has controlling means 3, 9 (see figure 1).

However, Iwatani does not disclose explicitly having a control means.

On the other hand, Liang et al discloses for the purpose of improving alternator operation and controlling operations, a controlling means 124, 148 (see figure 6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an electric power system as disclosed by Iwatani and to modify the invention by explicitly using a controlling means for the purpose of improving alternator operation and controlling operations as disclosed by Liang et al.

1. Claims 2-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani et al and Liang et al as applied to claim 1 above, and further in view of Clark.

The combined power system discloses all of the elements above. However, the combined power system does not disclose using pulse width modulation.

On the other hand, Clark discloses for the purpose of producing a constant output voltage and power which varies between wide limits that a regulator uses a pulse width modulator (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined electric power system as disclosed above and to use pulse width modulation for the purpose of producing a constant output voltage and power which varies between wide limits as disclosed by Clark.

2. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani et al, Liang et al and Clark as applied to claims 8 and 4 above, and further in view of Brkovic et al.

The combined power system discloses all of the elements above. However, the combined power system does not disclose using a switch and a sensor.

On the other hand, Brkovic et al discloses for the purpose providing a DC/DC converter with fast output voltage regulation, a DC/DC converter having switches S1 or Q1 (see figure 4). Also, the converters may use current sensors (see figure 1 & claim 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined electric power system as disclosed above and to use switches and sensors with converters for the purpose providing a DC/DC converter with fast output voltage regulation as disclosed by Brkovic et al.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.



***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

August 28, 2002



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